

SEQUENCE LISTING

<110> Duncan, Roy

<120> NOVEL REOVIRUS-DERIVED PROTEINS AND USES THEREFOR

<130> 78973-1C

10

<140> 08/965,708

<141> 1997-11-07

<160> 15

<170> FastSEQ for Windows Version 3.0

<210> 1

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<211> 1643

<212> DNA

<213> avian reovirus strain 176

<221> CDS

<222> (25)...(318)

<223> nucleotide sequence encoding P11 protein (SEQ ID NO:2)

<220>

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<221> misc_feature

<222> (293)...(730)

<223> CDS encoding P16 protein (SEQ ID NO:3)

<220>

<221> misc_feature

<222> (630)...(1607)

<223> CDS encoding sigma3 protein (SEQ ID NO:4)

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<400> 1

gctttttcaa tcccttggtc gtcg atg ctg cgt atg cct ccc ggt tcg tgt 51
Met Leu Arg Met Pro Pro Gly Ser Cys
1 5

aac ggt gcg act gct gta ttt ggt aac gtt cat tgt cag gca gct caa 99
Asn Gly Ala Thr Ala Val Phe Gly Asn Val His Cys Gln Ala Ala Gln
10 15 20 25

50

aac acg gca ggt ggt gat ttg caa gct acg tca tcc ata att gca tat 147
Asn Thr Ala Gly Gly Asp Leu Gln Ala Thr Ser Ser Ile Ile Ala Tyr
30 35 40

tgg cct tat cta gcg gcg ggt ggt ggt ttc tta tta att gtt atc att 195
Trp Pro Tyr Leu Ala Ala Gly Gly Phe Leu Leu Ile Val Ile Ile
45 50 55

ttc gct ctt cta tac tgt tgt aag gct aag gtc aag gcg gac gct gca 243
Phe Ala Leu Leu Tyr Cys Cys Lys Ala Lys Val Lys Ala Asp Ala Ala
60 65 70

60

cgt agt gtc ttc cat cgt gag ctg gta gcg ttg agt tct ggt aag cac 291
 Arg Ser Val Phe His Arg Glu Leu Val Ala Leu Ser Ser Gly Lys His
 75 80 85

aat gca atg gct ccg cca tac gac gtt tgaagtgcaa cgatttaatt 338
 Asn Ala Met Ala Pro Pro Tyr Asp Val
 90 95

10 tctgtccgct atcacttcgc gaacttgcta tcccatcatt tactgctata actggggctg 398
 acccatcaca gtattttaac attgagctcc cacacactca tccctctctat tccaaattgc 458
 ctactctggt atctcaacct tgtagggtcc acgtgcccgg gattcgccgg ttcgctctct 518
 attcaacatt gtcaagtatt tgtgagtacg attgtgctct actattctcc ccacacgcta 578
 tcgttccatt gcctgcatcc gatcgccggg cttgtcttat agttcattgg gatggcgggt 638
 ctcaatccat cgcagcgaag agaggctcgt agcttgatac tgtcattgac ttcgaacgtg 698
 actataagtc atggcgattt gacgccgatc tatgaacggc tgaccaatct agaagcgtct 758
 acggagttat tacatcgctc catttccgat atatccacta ctgtctcaaa tatttctgca 818
 aatttacaag acatgaccca taccttggat gatgtaactg ctaatttaga cggtttgagg 878
 accactgtta ctgcacttca ggattccgct tccattctgt ctacaaatgt gactgactta 938
 acgaacacat cctctgcgca cgcggcgaca ctatcttcac ttcaaactac ggttgacgga 998
 20 aactccactg ccatctccaa tttgaagagt gatgtatcgt cgaacgggtt agctattaca 1058
 gatctgcagg atcgtgttaa atcattggag tctaccgca gtcattggtct atctttttcg 1118
 cctccgctta gtgtcgctga cggcgtgggt tcattagaca tggaccctta cttctgttct 1178
 caacgagttt ctttaacatc atactcggcg gaggtcaac taatgcaatt tcggtggatg 1238
 gcacggggta ctaacggatc atctgatacc attgacatga ccgttaacgc tcaactgtcat 1298
 ggaagacgca ctgattatat gatgtcgtcc acgggaaatc tcacggtcac tagtaacgtc 1358
 gtgttattaa ccttcgattt aagtacata acgcataatc catcagacct agcacgtctt 1418
 gttcccagtg cgggattcca agctgcgtcg ttccctgtgg acgtatcatt caccgcgat 1478
 tctgcgactc atgcgtacca agcgtatggg gtgtactcga gctcacgtgt cttcacaatt 1538
 actttcccaa ccggaggtga tggtagacgc aacattcgtt ccttgaccgt gcgtaccggc 1598
 30 atcgacacct aaggtgtggc gccgtactgg gattgggtat tcatc 1643

<210> 2
 <211> 98
 <212> PRT
 <213> avian reovirus strain 176

40 <400> 2
 Met Leu Arg Met Pro Pro Gly Ser Cys Asn Gly Ala Thr Ala Val Phe
 1 5 10 15
 Gly Asn Val His Cys Gln Ala Ala Gln Asn Thr Ala Gly Gly Asp Leu
 20 25 30
 Gln Ala Thr Ser Ser Ile Ile Ala Tyr Trp Pro Tyr Leu Ala Ala Gly
 35 40 45
 Gly Gly Phe Leu Leu Ile Val Ile Ile Phe Ala Leu Leu Tyr Cys Cys
 50 55 60
 50 Lys Ala Lys Val Lys Ala Asp Ala Ala Arg Ser Val Phe His Arg Glu
 65 70 75 80
 Leu Val Ala Leu Ser Ser Gly Lys His Asn Ala Met Ala Pro Pro Tyr
 85 90 95
 Asp Val

60 <210> 3
 <211> 146

<212> PRT
<213> avian reovirus strain 176

<400> 3

Met Gln Trp Leu Arg His Thr Thr Phe Glu Val Gln Arg Phe Asn Phe
1 5 10 15
Cys Pro Leu Ser Leu Arg Glu Leu Ala Ile Pro Ser Phe Thr Ala Ile
20 25 30
10 Thr Gly Ala Asp Pro Ser Gln Tyr Phe Asn Ile Glu Leu Pro His Thr
35 40 45
His Pro Leu Tyr Ser Lys Leu Pro Thr Leu Leu Ser Gln Pro Cys Arg
50 55 60
Val His Val Arg Leu Ile Arg Arg Phe Ala Leu Tyr Ser Thr Leu Ser
65 70 75 80
20 Ser Ile Cys Glu Tyr Asp Cys Ala Leu Leu Phe Ser Pro His Ala Ile
85 90 95
Val Pro Leu Pro Ala Ser Asp Arg Arg Ser Cys Leu Ile Val His Trp
100 105 110
Asp Gly Gly Ser Gln Ser Ile Ala Ala Lys Arg Gly Arg Gln Leu Asp
115 120 125
30 Thr Val Ile Asp Phe Glu Arg Asp Tyr Lys Ser Trp Arg Phe Asp Ala
130 135 140
Asp Leu
145

<210> 4
<211> 326
<212> PRT
<213> avian reovirus strain 176

<400> 4

Met Ala Gly Leu Asn Pro Ser Gln Arg Arg Glu Val Val Ser Leu Ile
1 5 10 15
Leu Ser Leu Thr Ser Asn Val Thr Ile Ser His Gly Asp Leu Thr Pro
20 25 30
Ile Tyr Glu Arg Leu Thr Asn Leu Glu Ala Ser Thr Glu Leu Leu His
35 40 45
50 Arg Ser Ile Ser Asp Ile Ser Thr Thr Val Ser Asn Ile Ser Ala Asn
50 55 60
Leu Gln Asp Met Thr His Thr Leu Asp Asp Val Thr Ala Asn Leu Asp
65 70 75 80
Gly Leu Arg Thr Thr Val Thr Ala Leu Gln Asp Ser Val Ser Ile Leu
85 90 95
60 Ser Thr Asn Val Thr Asp Leu Thr Asn Thr Ser Ser Ala His Ala Ala
100 105 110

	Thr	Leu	Ser	Ser	Leu	Gln	Thr	Thr	Val	Asp	Gly	Asn	Ser	Thr	Ala	Ile	
					115				120				125				
	Ser	Asn	Leu	Lys	Ser	Asp	Val	Ser	Ser	Asn	Gly	Leu	Ala	Ile	Thr	Asp	
		130					135					140					
	Leu	Gln	Asp	Arg	Val	Lys	Ser	Leu	Glu	Ser	Thr	Ala	Ser	His	Gly	Leu	
	145					150					155					160	
10	Ser	Phe	Ser	Pro	Pro	Leu	Ser	Val	Ala	Asp	Gly	Val	Val	Ser	Leu	Asp	
					165					170					175		
	Met	Asp	Pro	Tyr	Phe	Cys	Ser	Gln	Arg	Val	Ser	Leu	Thr	Ser	Tyr	Ser	
				180					185					190			
	Ala	Glu	Ala	Gln	Leu	Met	Gln	Phe	Arg	Trp	Met	Ala	Arg	Gly	Thr	Asn	
			195					200					205				
20	Gly	Ser	Ser	Asp	Thr	Ile	Asp	Met	Thr	Val	Asn	Ala	His	Cys	His	Gly	
	210						215					220					
	Arg	Arg	Thr	Asp	Tyr	Met	Met	Ser	Ser	Thr	Gly	Asn	Leu	Thr	Val	Thr	
	225					230					235					240	
	Ser	Asn	Val	Val	Leu	Leu	Thr	Phe	Asp	Leu	Ser	Asp	Ile	Thr	His	Ile	
					245					250					255		
	Pro	Ser	Asp	Leu	Ala	Arg	Leu	Val	Pro	Ser	Ala	Gly	Phe	Gln	Ala	Ala	
				260					265					270			
30	Ser	Phe	Pro	Val	Asp	Val	Ser	Phe	Thr	Arg	Asp	Ser	Ala	Thr	His	Ala	
			275					280					285				
	Tyr	Gln	Ala	Tyr	Gly	Val	Tyr	Ser	Ser	Ser	Arg	Val	Phe	Thr	Ile	Thr	
	290						295					300					
	Phe	Pro	Thr	Gly	Gly	Asp	Gly	Thr	Ala	Asn	Ile	Arg	Ser	Leu	Thr	Val	
	305				310						315					320	
40	Arg	Thr	Gly	Ile	Asp	Thr											
					325												

<210> 5
 <211> 1643
 <212> DNA
 <213> avian reovirus strain 138

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 <220>
 <221> CDS
 <222> (25)...(318)
 <223> nucleotide sequence encoding P11 protein (SEQ ID NO:6)

<220>
 <221> misc_feature
 <222> (293)...(730)
 <223> CDS encoding P16 protein (SEQ ID NO:7)

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 <220>
 <221> misc_feature
 <222> (630)...(1607)
 <223> CDS encoding sigma3 protein (SEQ ID NO:8)

Gly Asn Val His Cys Gln Ala Ala Gln Asn Thr Ala Gly Gly Asp Leu
 20 25 30

Gln Ala Thr Ser Ser Ile Ile Ala Tyr Trp Pro Tyr Leu Ala Ala Gly
 35 40 45

Gly Gly Phe Leu Leu Ile Ile Ile Ile Phe Ala Ile Phe Tyr Cys Cys
 50 55 60

10 Lys Ala Lys Val Lys Ala Asp Ala Ala Arg Ser Val Phe His Arg Glu
 65 70 75 80

Leu Val Ala Leu Ser Ser Gly Lys His Asn Ala Met Ala Pro Pro Tyr
 85 90 95

Asp Val

20

<210> 7
 <211> 146
 <212> PRT
 <213> avian reovirus strain 138

<400> 7

Met Gln Trp Leu Arg His Thr Thr Phe Glu Val Gln Arg Phe Asp Phe
 1 5 10 15

Cys Pro Ile Ser Leu Arg Glu Leu Ala Thr Pro Ser Phe Thr Ala Ile
 20 25 30

30

Ile Gly Ile Asp Pro Ser Arg Tyr Phe Asn Ile Glu Leu Ser His Thr
 35 40 45

His Pro Leu Tyr Ser Lys Leu Pro Thr Leu Leu Ser Gln Pro Cys Arg
 50 55 60

Val His Val Arg Leu Ile Arg Arg Phe Ala Leu Cys Ser Thr Leu Ser
 65 70 75 80

40

Ser Ile Cys Glu Tyr Asp Cys Ala Leu Leu Leu Ser Pro His Ala Ile
 85 90 95

Thr Pro Leu Ser Ser Ser Asp Gln Arg Ser Tyr Leu Ile Val His Trp
 100 105 110

Asp Gly Gly Ser Gln Ser Ile Thr Ala Lys Arg Gly Arg Gln Leu Asp
 115 120 125

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Thr Val Ile Asp Phe Glu Arg Ala Tyr Lys Ser Trp Arg Phe Asp Ala
 130 135 140

Asn Leu
 145

<210> 8
 <211> 326
 <212> PRT
 <213> avian reovirus strain 138

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[illegible]

Phe Pro Thr Gly Gly Asp Gly Pro Ala Asn Ile Arg Phe Leu Thr Val
305 310 315 320

Arg Thr Gly Ile Asp Thr
325

<210> 9
<211> 1617
<212> DNA
<213> Nelson Bay virus

10 <220>
<221> CDS
<222> (27)...(311)
<223> nucleotide sequence encoding P11 protein (SEQ ID NO:10)

<220>
<221> misc_feature
<222> (277)...(696)
<223> CDS encoding P16 protein (SEQ ID NO:11)

20 <220>
<221> misc_feature
<222> (611)...(1579)
<223> CDS encoding sigma3 protein (SEQ ID NO:12)

<400> 9
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Met Ser Ser Asp Cys Ala Lys Ile Val
1 5

30 tct gtg ttt ggg agt gtg cat tgc cag tct tct aag aat tcg gct ggt 101
Ser Val Phe Gly Ser Val His Cys Gln Ser Ser Lys Asn Ser Ala Gly
10 15 20 25

gga gat ctt cag gcg aca tcc gtt ttc acg acc tat tgg cca cat ttt 149
Gly Asp Leu Gln Ala Thr Ser Val Phe Thr Thr Tyr Trp Pro His Phe
30 35 40

40 gcc att ggt ggg ggt att ata gta gta atc ttg ttg ctt gga cta ttc 197
Ala Ile Gly Gly Gly Ile Ile Val Val Ile Leu Leu Leu Gly Leu Phe
45 50 55

tat tgc tgt tat ctt aag tgg aag aca tcc cag gtc aag cac acg tat 245
Tyr Cys Cys Tyr Leu Lys Trp Lys Thr Ser Gln Val Lys His Thr Tyr
60 65 70

cgt cgt gag cta ata gcc ctt act cgt agt cat gtc cat tca acc cca 293
Arg Arg Glu Leu Ile Ala Leu Thr Arg Ser His Val His Ser Thr Pro
75 80 85

50 tct ggt att tcg tat gtg tgagagttct ttttatgagc cttgggtgcg 341
Ser Gly Ile Ser Tyr Val
90 95

atctgggttac agatctgaga ttagtttcat ttgccgtcgt gagttaacgt attatattaa 401
cgtgcacatt ccttttagacc atccacaacg ttcagtcgct tgcgctctat ctcagacccc 461
cgttgcttgg cacgtgtctt tgcttcgctg tcgatcgtac gacccatcac ttccggattt 521
ttgtgagctt gactgtgtgc tgcggcacat tcgtccaatc ccgagaagat tgggtgtctcg 581
aggtttctcc tctcacgttg tcgttcacta tgacagaacc actcagtcctc cagcagcgaa 641
aagagggtgt agccttgatt ttgacgatga accagagcat aagcgcttcg cgatctgaca 701
60 tgagtgcgct cgagaagcga gtgtctatca ttgaatcagc gcaggctgct ttacgtgtcg 761
atgttacttc tttgcagtca gttagttccg gattgaattc caccatgcac gatctgtcag 821
cgtctgtcgc gaatctcaag actatcgtca atactatgtc gtcaacagtt gccactatgg 881

aaggtgaatt	gcaaagtgtg	aagagtgaga	tttctaacac	gcaaaatgta	ctgtcagttg	941
tacagacaga	gctgagcaat	gcgcaatctg	gattagcatc	catgacgact	agcttgtaa	1001
acttaacgac	tagtgtgaac	gctaacgctg	tggccatata	tggactcaaa	gcctctctta	1061
actcactgtc	tagtcaatt	cctacatcac	tgcgactctc	cctgactgtc	tcaggcggtg	1121
ttttaagtct	gtctatgaat	cgtaaatctt	gtggtgacgc	tgtgtgttta	aattcatatt	1181
ccacattgtc	ccagatgcag	tcctttaact	cgaatgttcc	aacgtcatta	tctggtacca	1241
atctgtccac	ttctattctt	gtgcattcgc	gtggtggttt	gactgtattc	aatttgtcta	1301
cgactcatgc	tttcacacct	acgtcggttg	ataccaaatt	gactatcgac	tgtcgaactt	1361
ttaccccgtc	tccaagtgat	tgggtccgttc	taataccaaa	accagcattt	caatcgagca	1421
attttctgtg	tacgggttgg	atgtgtgtca	acgacgcatg	gatcccggca	agtgtgatcg	1481
gtgcggtgga	tagtaatcct	aaggatcatg	tcttgcatct	gactacgcgg	ccttcacagc	1541
gaattacggg	cttggtcatc	tatttctcta	tcgacacgta	gggggtggct	cccaccacta	1601
agagatgcta	ctcatc					1617

<210> 10
 <211> 95
 <212> PRT
 <213> Nelson Bay virus

<400> 10

Met	Ser	Ser	Asp	Cys	Ala	Lys	Ile	Val	Ser	Val	Phe	Gly	Ser	Val	His
1				5				10					15		
Cys	Gln	Ser	Ser	Lys	Asn	Ser	Ala	Gly	Gly	Asp	Leu	Gln	Ala	Thr	Ser
			20					25					30		
Val	Phe	Thr	Thr	Tyr	Trp	Pro	His	Phe	Ala	Ile	Gly	Gly	Gly	Ile	Ile
		35					40					45			
Val	Val	Ile	Leu	Leu	Leu	Gly	Leu	Phe	Tyr	Cys	Cys	Tyr	Leu	Lys	Trp
	50					55					60				
Lys	Thr	Ser	Gln	Val	Lys	His	Thr	Tyr	Arg	Arg	Glu	Leu	Ile	Ala	Leu
65					70				75					80	
Thr	Arg	Ser	His	Val	His	Ser	Thr	Pro	Ser	Gly	Ile	Ser	Tyr	Val	
				85					90					95	

<210> 11
 <211> 140
 <212> PRT
 <213> Nelson Bay virus

<400> 11

Met	Ser	Ile	Gln	Pro	His	Leu	Val	Phe	Arg	Met	Cys	Glu	Ser	Ser	Phe
1				5				10					15		
Tyr	Glu	Pro	Trp	Val	Arg	Ser	Gly	Tyr	Arg	Ser	Glu	Ile	Ser	Phe	Ile
			20					25					30		
Cys	Arg	Arg	Glu	Leu	Thr	Tyr	Tyr	Ile	Asn	Val	His	Ile	Pro	Leu	Asp
			35				40					45			
His	Pro	Gln	Arg	Ser	Val	Ala	Cys	Ala	Leu	Ser	Gln	Thr	Pro	Val	Ala
	50					55					60				
Trp	His	Val	Ser	Leu	Leu	Arg	Arg	Arg	Ser	Tyr	Asp	Pro	Ser	Leu	Pro
65					70				75					80	

Thr Val Phe Asn Leu Ser Thr Thr His Ala Phe Thr Pro Thr Ser Val
 225 230 235 240

Asp Thr Lys Leu Thr Ile Asp Cys Arg Thr Phe Thr Pro Ser Pro Ser
 245 250 255

Asp Trp Ser Val Leu Ile Pro Lys Pro Ala Phe Gln Ser Ser Asn Phe
 260 265 270

10 Leu Cys Thr Gly Trp Met Cys Val Asn Asp Ala Trp Ile Pro Ala Ser
 275 280 285

Val Ile Gly Ala Val Asp Ser Asn Pro Lys Val Met Phe Leu His Leu
 290 295 300

Thr Thr Arg Pro Ser Gln Arg Ile Thr Gly Leu Val Ile Tyr Phe Ser
 305 310 315 320

Ile Asp Thr

20

<210> 13
 <211> 887
 <212> DNA
 <213> baboon reovirus

<220>
 <221> misc_feature
 <222> (25)...(444)
 <223> CDS

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<220>
 <221> misc_feature
 <222> (413)...(832)
 <223> CDS encoding P15b protein (SEQ ID NO:15)

<400> 13
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 Met Gly Gln Arg His Ser Ile Val Gln

40

cca cca gct cca ccg cca aat gct ttt gtt gaa att gtg agc agt tct 99
 Pro Pro Ala Pro Pro Pro Asn Ala Phe Val Glu Ile Val Ser Ser Ser
 10 15 20 25

act ggc att ata atc gct gtt ggc ata ttt gca ttt ata ttc tca ttt 147
 Thr Gly Ile Ile Ile Ala Val Gly Ile Phe Ala Phe Ile Phe Ser Phe
 30 35 40

50

tta tat aag ttg ctg cag tgg tac aat cgt aag tca aag aat aag aaa 195
 Leu Tyr Lys Leu Leu Gln Trp Tyr Asn Arg Lys Ser Lys Asn Lys Lys
 45 50 55

cgt aaa gag caa att aga gaa caa att gag ctt ggt tta tta tca tat 243
 Arg Lys Glu Gln Ile Arg Glu Gln Ile Glu Leu Gly Leu Leu Ser Tyr
 60 65 70

60

ggg gct gga gta gca tca ctt cct ttg ctc aac gtt att gca cat aat 291
 Gly Ala Gly Val Ala Ser Leu Pro Leu Leu Asn Val Ile Ala His Asn
 75 80 85

30

10

20

30

49